

Teens, Parents, and Driver Education: What's Down the Road?

Jean Thatcher Shope, MSPH, PhD

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UNIVERSITY OF MICHIGAN
TRANSPORTATION RESEARCH INSTITUTE

Acknowledgements

- Our Montana friend and colleague, David Huff
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 - Ray Bingham
 - Jennifer Zakrajsek
 - Bruce Simons-Morton
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 - NIH (NIAAA, NICHD)
 - CDC and CDC's NCIPC
 - NHTSA



Overview

- What do we know about teen drivers?
- What's been done to help teen drivers' safety?
- Why do some teens crash and not others?
- How can we help parents help their teen drivers?
- Can technology help (safety monitoring)?
- Where are we and what's ahead down the road?



What do we know about teen drivers?







As a group, teen drivers crash more:

- When younger age at licensure
- In first months of driving on own
- When driving at night
- When driving with teen passengers
- If they are male



What's been done to help teen drivers' safety?





Policies that help teen drivers' safety:

- Minimum Legal Drinking Age laws (all states by 1988)
- Zero Tolerance laws (all states by 1998)
- Primary safety belt laws (32 states, not MT)
- Speed limits
- Graduated Driver Licensing (all states by 2011)
 - □ Three stages, more practice, intermediate stage with restrictions (night, passenger, cell phone, etc.)
 - □ Effective reduces 16 year old crashes 20-40%

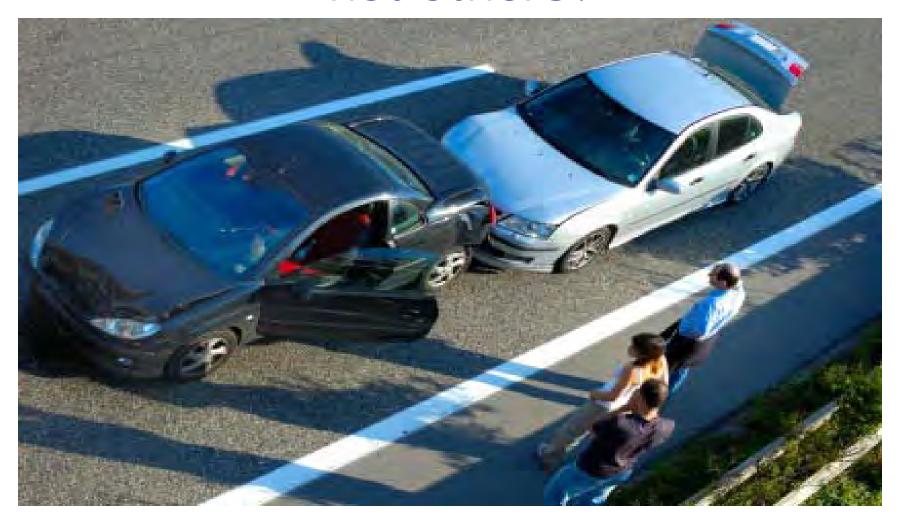


Driver educators can:

- Educate teens and parents about policies
- Remind parents that policies are the minimum; parents can individualize
- Educate teens about the safety reasons for policies
- Support policies at community and state level
- Advocate for improved policies
- Other...

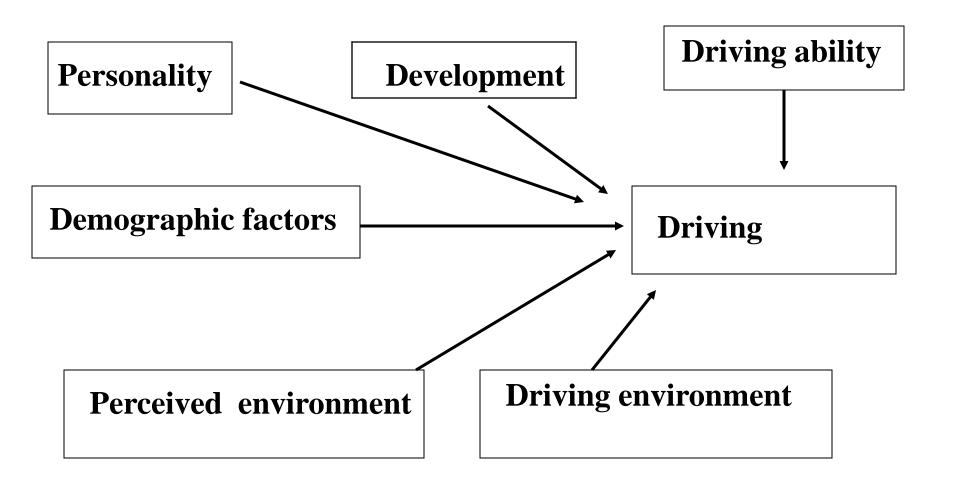


Why do some teen drivers crash and not others?





Influences on Young Drivers





Longitudinal Study

- Followed 17,000 students from age 10
- Substance abuse evaluation studies
- 13,000 obtained Michigan license
- Questionnaires, phone interviews
- Driver license/crash records
- Data linked and analyzed
- Theoretical basis
- Several publications of results



Teens who crash:

- Use tobacco, alcohol, and marijuana earlier and more
- Have friends who use alcohol and marijuana
- Have easy access to alcohol and marijuana
- Live with only one parent
- Felt parents were lenient regarding teens' drinking
- Felt parents did not monitor them closely
- Felt less family connectedness
- Were susceptible to peer pressure
- Were accepting of deviant behavior



Montana Teen Study

- Youth Risk Behavior Survey 2003, 2005, 2007
- 9th and 12th grade students
- N = 9,888
- Data weighted to represent state
- Montana had added driving items: non-drivers, licensed drivers, never licensed drivers



Montana teens who drive unlicensed:

- Showed problem behavior early
- Smoked
- Drank alcohol
- Used marijuana and other drugs
- Rode with drinking drivers
- Fought and carried weapons
- Had poorer mental health



Driver educators can:

- Be aware of the many other influences on teens' driving
- Be aware of individual differences
- Help parents understand their role
- Help parents understand their own teen's needs
- Other...



How can we help parents help their teen drivers?





Parents' Role in Teen Driving

- Parents know their teen best
- Parents can and should decide teens' driving readiness
- Parents give permission to teen to learn, get licensed
- Parents usually supervise practice driving
- Parents often own the car, have the keys
- Parents pay insurance, gas, repairs
- Parents must enforce GDL restrictions; police can't
- Parents have more influence than they realize
- Montana's KEYS program (Hartos, Huff, Carroll)



Checkpoints (NICHD)

- Simons-Morton's <u>self-administered</u> parent program
- Facilitates parent management of teen driving to reduce risk, based on Protection Motivation Theory
- Persuasive messages and parent/teen driving agreement
 - Initially, teens drive alone only in low-risk conditions
 - □ Later, teens gain privileges with experience/responsible behavior
- Delivered through state licensing offices
- Shown promise in increasing agreement use and early restrictions, and reducing risky driving

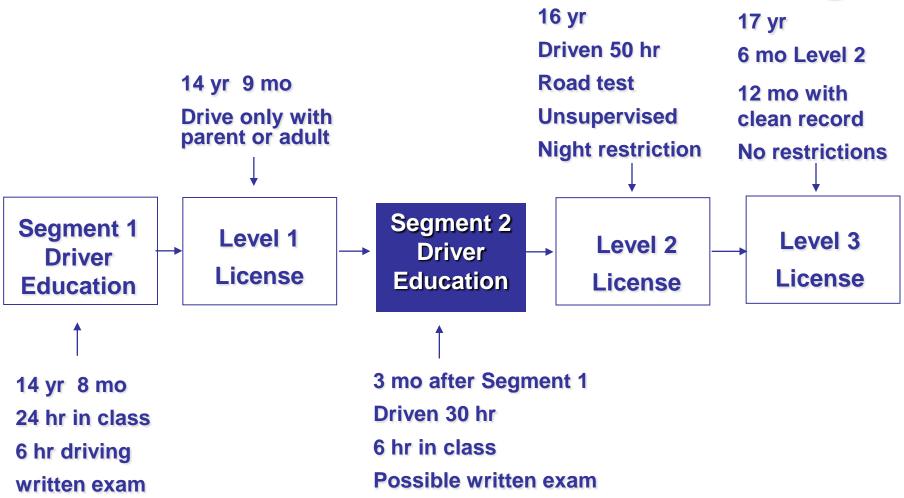


Driver Education as a Potential Setting for Checkpoints

- Teachable moment for parents
- Good venue for parent-teen discussion (classroom)
- Good venue for interaction with a facilitator
 - □ Face-to-face
 - □ Small group
 - □ Brief intervention



GDL and Driver Education in Michigan





Checkpoints in Michigan Driver Education Study #1

- Test efficacy, in a group-randomized trial, of Checkpoints intervention (large driving school, 344 parent/teen dyads)
 - □ Adapted for Michigan's GDL
 - Delivered as a brief group intervention
 - □ Led by trained <u>health educator</u>
 - Delivered to driver education classes



Checkpoints in Michigan DE Results

- Checkpoints parents (licensure phone survey):
 - □ Had increased awareness of teen driving risk
 - Were more likely to have completed agreement
 - □ Were more likely to set recommended restrictions
 - For heavy rain
 - For road types and speed
 - For teen passengers (marginal)
 - For snow or ice (marginal)
 - Were not more likely to set recommended restrictions for nighttime driving



Checkpoints in Michigan Driver Ed Discussion

- First report of Checkpoints in driver education
- Efficacy was demonstrated for parents who participated, but they were not the majority
 - □ Need to increase participation
- Stronger effects would be desirable
 - □ Comparison parents had comprehensive materials
 - □ Booster could be needed



Checkpoints in Michigan Driver Education Study #2

- Trained <u>driver education instructors</u> administered program
 - □ 10 small driving schools
 - □ 152 parent-teen dyads
 - □ Randomized controlled trial with 6-month follow-up
- Additional poster for class session
- Parent responsibilities in agreement
- Booklet for parents to take home



Checkpoints in Michigan Driver Education Study #2: Objectives

- Raise parents' awareness of risks to teen drivers
- Encourage adoption of parent/teen driving agreement
- Encourage setting appropriate driving restrictions
- Involve parents in monitoring teens' early driving
- Reduce teens' risky driving

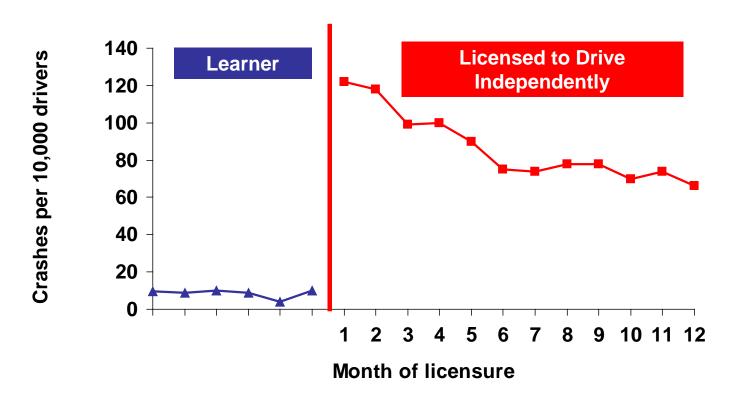


Checkpoints in Michigan DE Study #2: Classroom Session

- Parents/teens in driver education classroom (1/2 hour)
- Introduction
- Video "Who Wants to Be a Driver;" discussion
- Persuasive messages
- Teen drivers' risk (posters)
- Written parent/teen agreement: discussion and completion, one condition at a time
- Conclusion/parent poll of intended driving restrictions



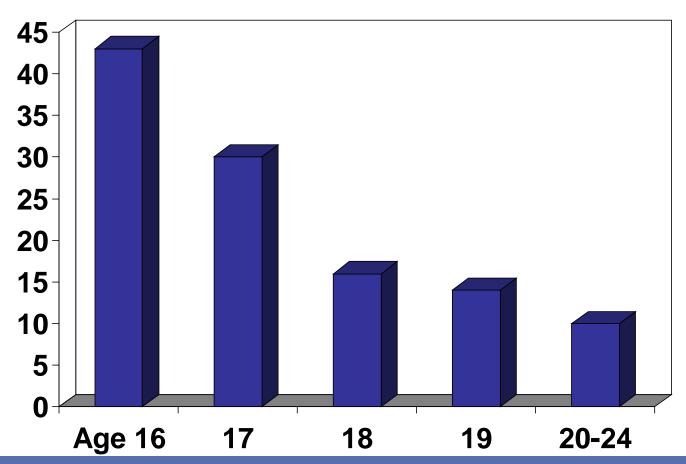
Crash Rate by Licensure Month



Adapted from: Mayhew et al., 2003 - Accident Analysis and Prevention

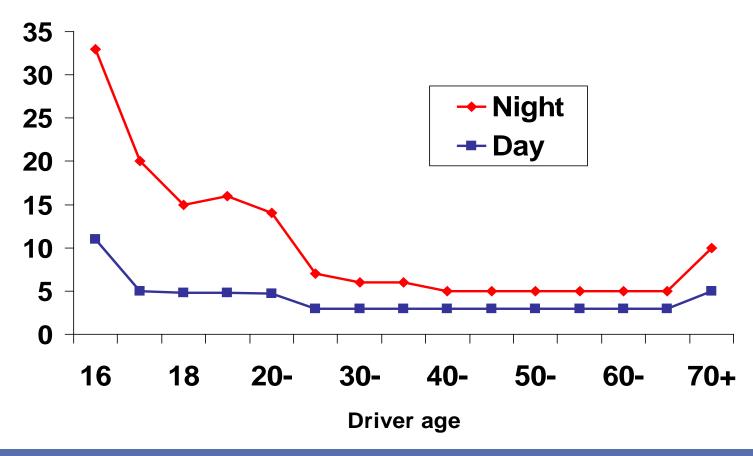


Crashes by Age



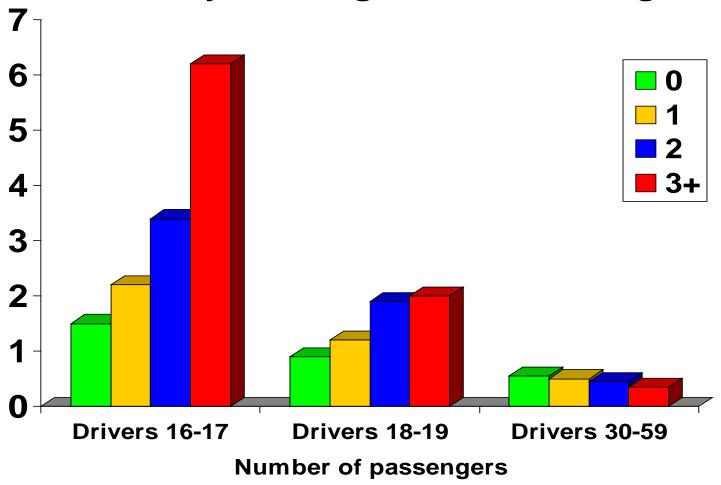


Nighttime Fatal Crashes



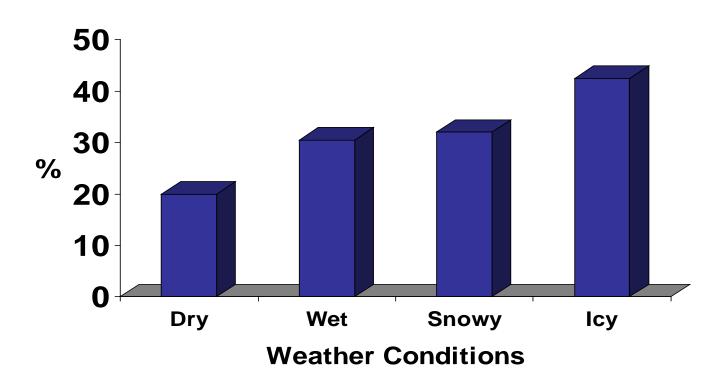


Crashes by Passengers and Driver Age



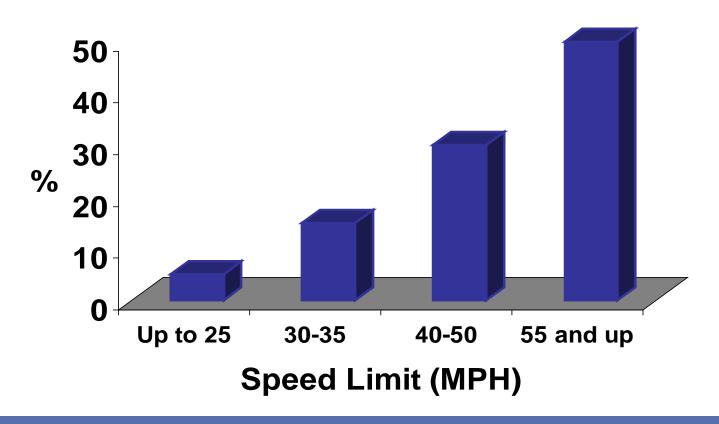


Ran-off-Road Crashes by Weather Conditions





Fatal Crashes by Speed Limit 16 Year-Old Drivers





Checkpoints Agreement: Part 1 Driving Conditions Parent-Teen Driving Agreement

Part 1...PRIVILEGES FOR UNSUPERVISED DRIVING These need to be tailored to your teen's driving progress

DIRECTIONS

- 1 Review risks, discuss, and fill in Checkpoint privileges for each driving condition.
- 2 Decide how long these privileges should remain in effect, and fill in length and date for next review.
- 3 Initial and date agreed-upon privileges.
- 4 At review date, discuss staying in Checkpoint longer, or increasing privileges and filling in next Checkpoint.
- 5 Repeat process for all Checkpoints.

DRIVING CONDITIONS		CHECKPOINT 1	CHECKPOINT 2	CHECKPOINT 3	CHECKPOINT 4
NIGHTTIME	-				
TEEN PASSENGERS	Daytime				
	Nighttime				
WEATHER	Daytime				
	Nighttime				
ROADS	Daytime				
	Nighttime				
Length of time in effect					
Next date to review if teen: Followed privileges? Improved skills? Had enough practice? Obeyed rules?					
Parent and teen initial: understand and agree to accept driving privileges		Parent Teen	Parent Teen	Parent	Parent Teen



Checkpoints Agreement: Part 2 Rules and Consequences

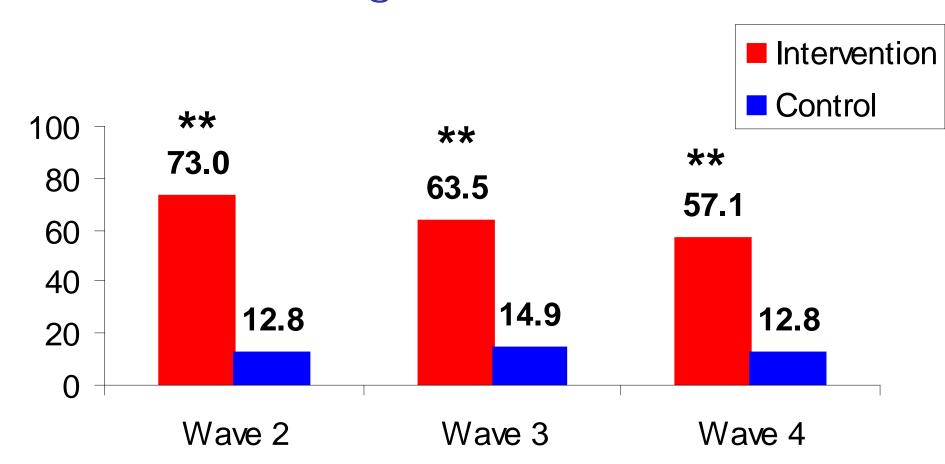
Part 2...DRIVING RULES These are absolutes - ones that apply to every trip every time

MARK EACH WITH A CHECK TO INDICATE AGREEMENT						
TEEN DRIVER WILL:	PARENT WILL:					
 □ Never drive after taking any drugs or alcohol or ride with a driver who has taken any drugs or alcohol □ Never speed, tailgate, or cut off others □ Always obey all traffic laws □ Always wear a safety belt and require all passengers to wear safety belts □ Always tell parent/guardian where going and with whom □ Always call home if going to be late □ Always call home if for any reason it is not safe to drive or ride with someone else □ Never play around with passengers, talk on a cell phone, mess with the radio or do anything else distracting. CONSEQUENCES IF TEEN VIOLATES DRIVING PRIVILEGES OR RULES: □ Lose driving privileges for □ Other 	 □ Be a good role model behind the wheel □ Point out and discuss safe and dangerous driving situations and practices □ Apply rules fairly and consistently □ Consider <i>necessary</i> exceptions to the driving privileges □ Provide safe ride home when asked (no questions at that time) 					

AGREE: We understand and agree to these driving privileges and rules/consequences.							
Teen Initials:	Date:	Parent Initials:	Date:				



% of Teens Using a Written Agreement





Driver Ed Study #2: Other Results

- Significantly more Checkpoints teens had agreements with recommended # teen passengers and night restrictions through 6 months (and road type restrictions at licensure)
- Significantly fewer Checkpoints teens reported risky driving at 6 months (especially speeding 20+ mph over limit and running yellow lights)
- No significant difference in number of teens with offenses (15%) or crashes (12%)



Checkpoints in Michigan DE Study #2: Discussion

- Encouraging results but...
- Only 35% of parents at class sessions
 - Lack of time
 - No need (teen behaving; laws are enough)
- Some parents didn't use materials after the session
 - □ Lack of time or forgot
 - □ Work done in session was enough
- Need to increase parent engagement/enforcement, and strengthen limits set



Driver educators can:

- Insist on parent meetings
- Use meeting and other time to engage parents actively
- Point out important risks, but not too much information
- Point out that ALL new drivers are inexperienced
- Encourage use of parent/teen driving agreements
- Use your expertise, credibility to influence parents
- Other...



Checkpoints Web Statewide Distribution (MI) Study

Aims

- Develop a web-based interactive Checkpoints program (saferdrivingforteens.org)
- Examine its adaptability and fidelity
- Develop a promotional plan and promotional partners
- Identify parent, organization, and program factors related to dissemination, implementation, institutionalization
- Measure promotional program effectiveness on the above outcomes





Welcome to the Checkpoints Program, a free resource for parents of teen drivers.

Help your teen become a safer independent driver. Create a parent-teen driving agreement today.

Learn More

HOME | SIGN UP

HELP

PARENT RESOURCES

DRIMING AGREEMENT

Motor vehicle crashes kill more teens than any other cause.

Becoming a safe driver takes years of experience. By being actively involved in their teen's driving, parents help increase their teen's safety.

This website brings parents the Checkpoints program. It has been shown to help parents keep teens safer while they learn how to drive.

Sign up

Checkpoints Helps by:

- · Giving parents facts about teen driving safety.
- Showing parents what they can do to make their teen a safer driver.
- Providing a free interactive Parent-Teen Driving Agreement that can be customized to you and your teen.

I was really mad at my parents when they said I couldn't drive at night for three months! All my friends could. Then a kid at school was killed in a late-night wreck. I didn't know him very well, but it made me think, a lot.

Lord, 16-year-old - plonone

LATEST NEWS

Michigan's New Teen Driving Laws Take Effect March 30th! >

Teens Do Better With Parents Who Set Limits >

MI Senate Passes House Measure to Change Teen Driving Laws >

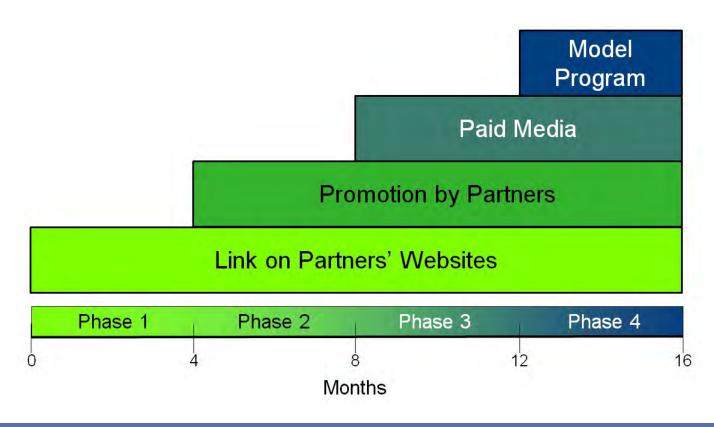
See all news posts





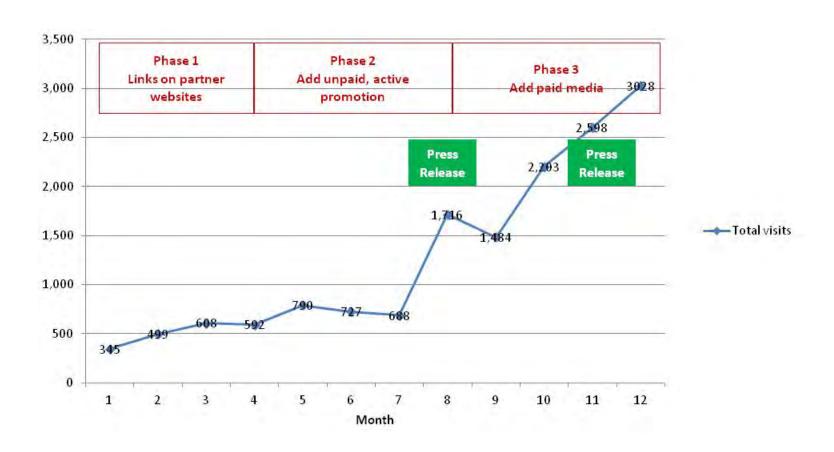


Checkpoints Web Promotion Phases





Google Analytics Results: Traffic



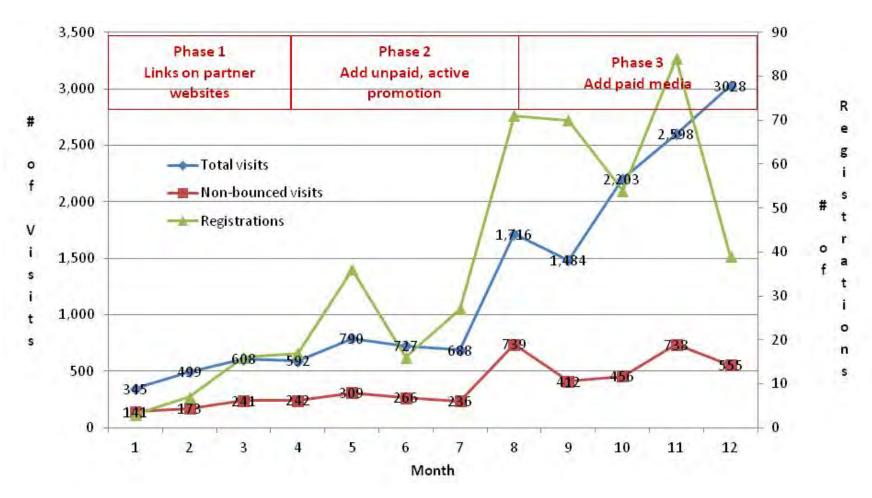


Google Analytics Results: Visits



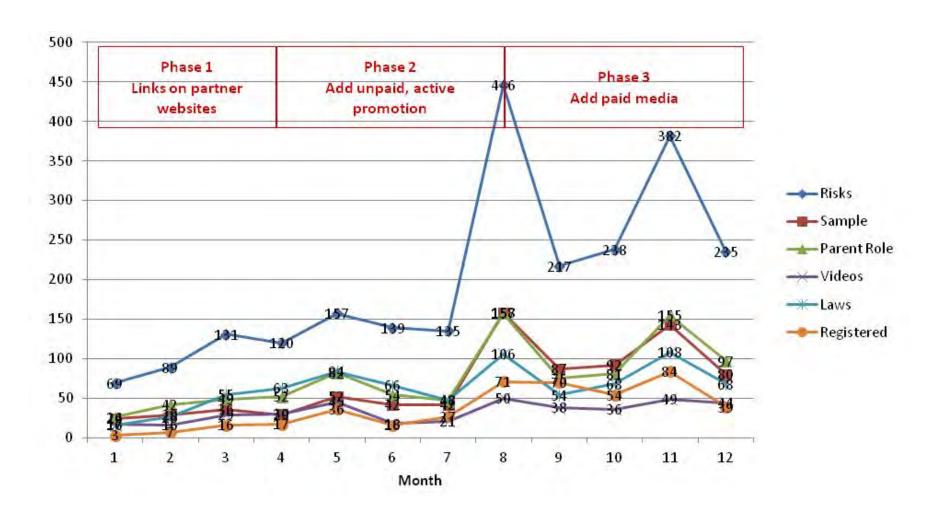


Google Analytics Results: Registrations





Google Analytics Results: Topics





Driver educators can:

- Direct parents toward useful websites
- Help parents find resources they need
- Be sure that what is recommended has been evaluated and is evidence-based
- Other...



Checkpoints in Primary Care Study

- Collaboration with American Academy of Pediatrics
- Dissemination Checkpoints through pediatric and family medicine primary care settings
- Posters, bookmarks, pens, notepads, button
- Primary care provider brief intervention: raise issue of teen driving and refer parents to Checkpoints website
- Measure visits to website, adoption of agreement







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HOME

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66

The most important thing parents can do to reduce teen crash risk it to limit initial driving under high risk conditions.

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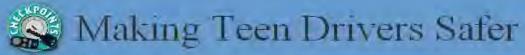
ATEST NEWS

See all news posts













California Graduated Driver Licensing

designed to increase the safety of new teen drivers

Parents

HOME

SIGN UP HELP

PARENT RESOURCES | DRIVING AGREEMENT | RISKS

License Type	Level 1 (Supervised Driving)	Level 2 (Independent Driving, with Restrictions)	Level 3 (Unrestricted Driving) Driver's license Full license Unrestricted license	
What other names do people call this license?	Learner's license Learner's permit	Driver's license Probationary license Provisional license Restricted license		
Minimum Age	At least 15 and 6 months	At least 16	At least 17	
What needs to be completed before getting this license?	Driver's education completed (30 class hours) or current enrollment License not valid until you start behing the wheel training (6 hrs) Written exam	50 hrs supervised practice driving (10 at night) Driver's training (6 hours) Hold Level 1 license for 6 months Road test	t • 12 months with no crash/violation	
Forms tests and extras neded	Fee Parent signature Vision exam	Parent Signature Proof of completion of driving education and training		
Cannot use cell phones while driving Drive only with parent, guardian, or other licensed driver 25 or older		Cannot use cell phones while driving Drive unsupervised except 11pm-5am No passengers younger than 20 (limited exception for immediate family) for first 12 months	Cannot use cell phones while driving Full driving privileges	





Even "responsible" friends in the car can be distracting. Crash risks are nearly doubled with one passenger - and go up further with each extra passenger.

HOME

SIGN UP

HELP

PARENT RESOURCES

DRIVING AGREEMENT

Sign up to start your Driving Agreement

* Required Fields	
* Username	
* Email address	
* Email address (again)	
* Password	
* Password (again)	
* Where did you hear about this	
website?	
testort Site.	C CAMBIA
1	240 2 - 01 1900 200m.

Why am I being asked for this information?

To use the interactive parent-teen agreement you must create a username and password. This will allow you to save your agreement and return to it in the future. The items that are required are needed to use the interactive agreement.

Telling us how you heard about the website will help us make it available to more parents.

Your privacy is important, Your information is safe and will not be sold or shared with anyone. See our Privacy Policy for more details.

Sign Up

Cancel



Making Teen Drivers Safer



Teens with their own vehicles are at greater risk because they drive more and have fewer restrictions placed on them.

HOME

HELP

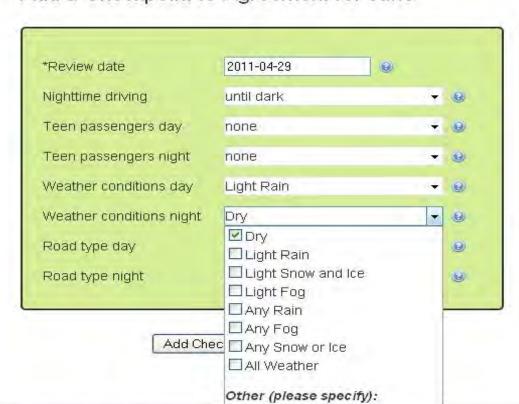
PARENT RESOURCES

DRIVING AGREEMENT

RISKS

Add a Checkpoint to Agreement for Jane





Adding a Checkpoint

Use the form to decide your teen's driving privileges under the following conditions. Research has shown that the conditions listed are especially risky for teen drivers.

Have questions? Click on the 9 icons below for a more detailed explanation and suggestions.

HOME | CONTACT US | MY AGREEMEN



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HOME | HELP | PARENT RESOURCES | DRIVING AGREEMENT | RISKS

Parent-Teen Driving Agreement for Jane

Print

Back

CHECKPOINTS Add Checkpoint See Archived Checkpoints

Driving Conditions		Checkpoint 1	Checkpoint 2	Checkpoint 3	Checkpoint 4
Start Date		04/05/2011			
Review Date		04/29/2011			
Nighttime		until dark			
Teen Passengers	Daytime	none			
	Nighttime	none	Add Checkpoint		
Weather Conditions	Daytime	Light Rain,	Add Checkbollit		
	Nighttime	Dry,			
Roads	Daytime	Local (< 55 mph),			
	Nighttime	Neighborhood (<=25 mph),			

DRIVING RULES Edit Driving Rules

Teen Driver Will:

- Never play around with passengers, talk on a cell phone, mess with the radio or do anything else distracting
- Always call home if for any reason it is not safe to drive or ride with someone else
- Always call home if going to be late
- Always wear a safety belt and require all passengers to wear safety belts
- Always obey all traffic laws.
- Never speed, tailgate, or cut off others
- Never drive after taking any drugs or alcohol or ride with

Parent Will:

- Provide safe ride home when asked (no questions at that time)
- Consider necessary exceptions to the driving privileges
- Apply rules fairly and consistently
- Point out and discuss safe and dangerous driving situations and practices
- Be a good role model behind the wheel

Checkpoints in Primary Care Progress

- Primary care providers beginning implementation
- Google Analytics data better than Michigan website
 - Visits are longer
 - More pages are viewed
 - More registrations, agreements
- Direct personal message from trusted source more motivating



Driver educators can:

- Deliver a direct message to parents and be more effective
 - Care about teens' safety
 - Ways to help teens
- Consider directing parents to: youngdriverparenting.org
- Other...



Can technology help?





Safety Monitoring Study

- In-vehicle data recording and feedback device
- Triggered by hard braking, sharp turns
- Randomized control trial for 13 weeks with 90 dyads:
 - Feedback only to teen (light only)
 - Feedback to teen (light) and parent (weekly report card, coaching tips, ranking of teen relative to others, and access to event videos)







Safety Monitoring Results

- The group that received both the lights and feedback to parents:
 - Had less risky driving
 - Had their risky driving decline significantly



Driver educators can:

- Rise to challenge of reducing risky events when teens drive on their own
- Encourage parents to monitor teens' driving behavior
 - Checkpoints-type approach
 - Parent-teen driving agreement
 - Monitoring with or without a device
- Other...



Teen Passenger Simulator Study





Teen Passenger Simulator Study

- Understand the influence of teen passengers on teen driving
- Project 1: Randomized controlled trial of risk-averse vs. risk-accepting passenger
 - Male driver and male 'confederate' passenger
 - 60 teen drivers met confederate and drove route
 - Data on risky driving collected



Teen Passenger Simulator Project

- Project 1 results show that male teens' driving is more risky in the presence of the risk-accepting confederate
- Project 2 will have a stronger teen passenger role, overtly risk-averse or risk-accepting
 - Passenger will verbally encourage driving style
 - 90 teen drivers will be studied
- Social psychology of peer influence being studied with questionnaires and brain imaging



Driver educators can:

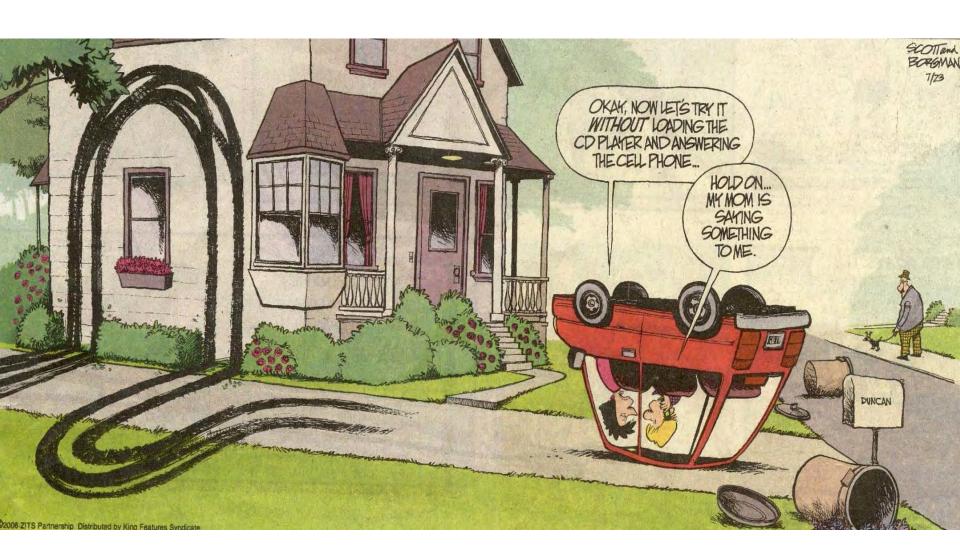
- Stay tuned for new results
- Be open to new driver education approaches
- Be aware of what you can and can't do
- Help families prepare for helping their teens
- Keep up the good work preparing the best drivers possible!



Where are we? What's ahead?

- Know some factors that relate to teen crashes
 - But don't know how teens learn to drive (science)
- Know that policies like GDL help
 - But may need to enhance them more
- Know that driver education is essential
 - But need updated driver education
- Know how to help parents help teens
 - But parents are challenged in doing so
- Need to stay tuned, adapt approach, focus on the teens







Thank you!!

jshope@umich.edu





References

Bingham CR. Young unlicensed drivers: Three studies to understand the association of lifestyle and area associated risk. Report No. M-CASTL 2010-05, University of Michigan Transportation Research Institute, 2011.

Lang SW, Waller PF, Shope JT. Adolescent driving: Characteristics associated with single vehicle and injury crashes. *Journal of Safety Research* 27(4), 241-257, 1996.

Shope JT. Graduated driver licensing: Review of evaluation results since 2002. *Journal of Safety Research* 38, 165-175, 2007.

Shope JT, Bingham CR. Teen driving: Motor vehicle crashes and factors that contribute. *American Journal of Preventive Medicine* 35(3S), S261-S271, 2008.

Shope JT, Raghunathan TE, Patil SM. Examining trajectories of adolescent risk factors as predictors of subsequent high-risk driving behavior. *Journal of Adolescent Health* 32, 214-224, 2003.



References (cont.)

Shope JT, Waller PF, Lang SW. Alcohol-related predictors of adolescent driving: Gender differences in crashes and offenses. *Accident Analysis and Prevention* 28(6), 755-764, 1996.

Shope JT, Waller PF, Raghunathan TE, Patil SM. Adolescent antecedents of high-risk driving behavior in young adulthood: Substance use and parental influences. *Accident Analysis and Prevention* 33(5), 649-658, 2001.

Simons-Morton BG, Bingham CR, Oiumet MC, Pradhan A, Chen R, Barretto A, Shope J. The effect of feedback from a safety monitoring system on risky driving: A randomized experiment with teenage drivers. Submitted.

Vanlaar W, Mayhew D, Marcoux K, Wets G, Brijs T, Shope JT. An evaluation of graduated driver licensing programs in North America using a meta-analytic approach. *Accident Analysis and Prevention* 41, 1104-1111, 2009.



References (cont.)

Zakrajsek JS, Shope JT, Ouimet MC, Wang J, Simons-Morton BG. Efficacy of a brief group parent/teen intervention in driver education to reduce teenage driver injury risk: A pilot study. *Family and Community Health* 32(2), 175-188, 2009.

Zakrajsek JS, Shope JT, Greenspan AI, Wang J, Bingham CR, Simons-Morton BG. Effectiveness of a parent-directed brief teen Driver safety intervention (Checkpoints) delivered by driver education instructors. Submitted.



More Detailed Data from Checkpoints Driver Education Study

Zakrajsek JS, Shope JT, Greenspan AI, Wang J, Bingham CR, Simons-Morton BG. Effectiveness of a parent-directed brief teen Driver safety intervention (Checkpoints) delivered by driver education instructors. Submitted.

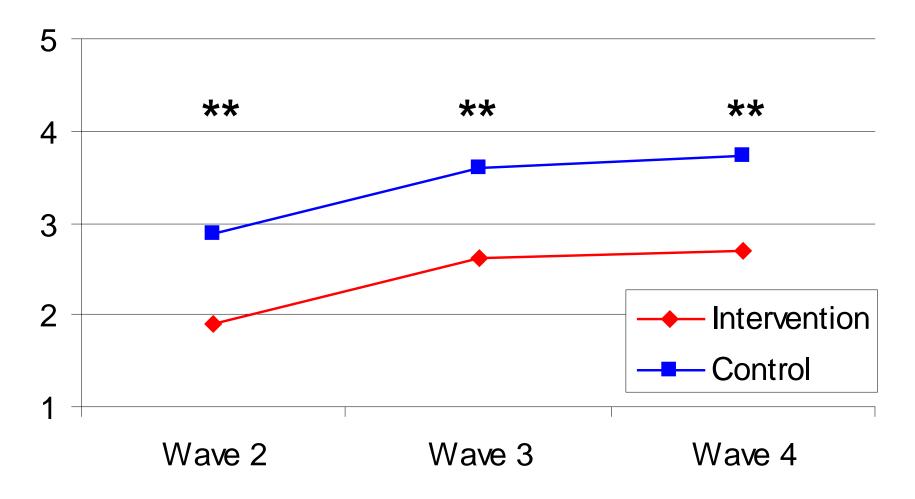


% of Teens with Limits Meeting Checkpoints Recommendations

	Wave 2		Wave 3		Wave 4	
	Intervention	Control	Intervention	Control	Intervention	Control
Teen passengers	55.6	21.3	28.6	8.5	28.6	8.7
Week night	47.6	27.7	61.9	42.6	87.3	68.1
Weekend night	33.3	6.4	39.7	21.3	60.3	46.8
Road type	28.6	2.1	12.7	6.4	14.3	10.6
Weather	0.0	0.0	1.6	2.1	25.4	14.9

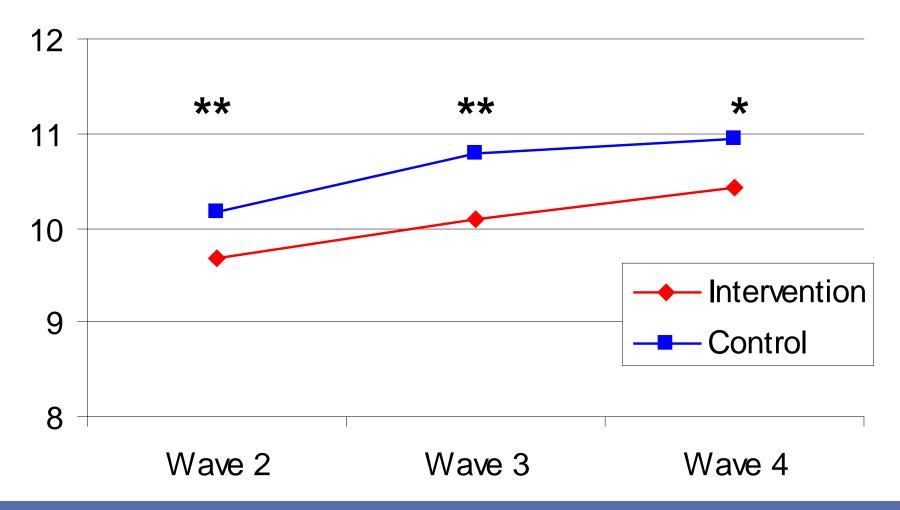


Number of Teen Passengers Allowed



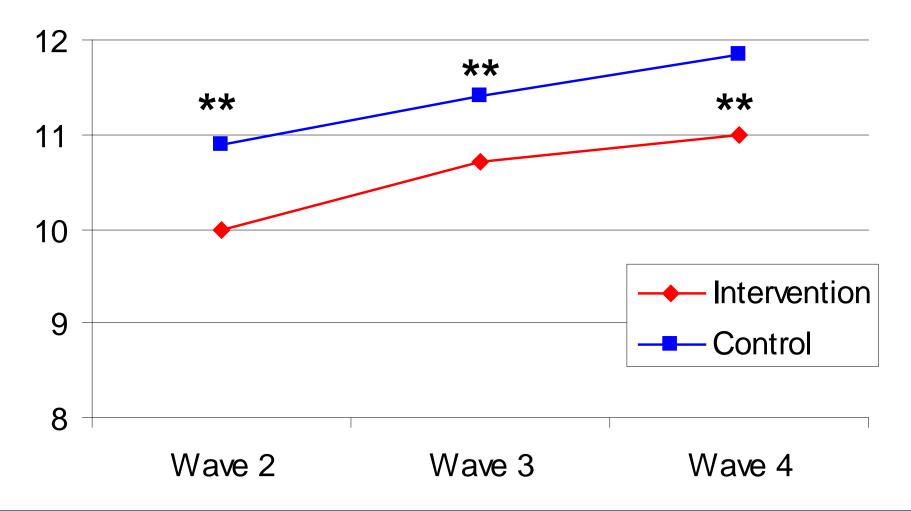


Night Driving Limit: Sun - Thurs





Night Driving Time: Fri - Sat





Driving Outcomes at 6 months (Wave 4)

	Intervention m (sd)	Control m (sd)	р
Overall High Risk Driving (past week) – 19 items	0.50 (0.5)	0.82 (0.9)	.04
Sped in residential or school zone	1.51 (1.7)	2.20 (2.3)	.09
Drove 10-19 mph over limit	0.31 (0.1)	0.80 (1.8)	.10
Drove 20+ mph over limit	0.02 (0.1)	0.28 (0.7)	.02
Tailgated	0.08 (0.3)	0.37 (1.0)	.07
Went through intersection on yellow	1.79 (2.2)	3.15 (3.9)	.04
Raced another vehicle	0.05 (0.2)	0.24 (0.7)	.07
Drove to show off	0.03 (0.2)	0.15 (0.4)	.08

No difference in number of teens with offenses (15%) or crashes (12%)

